

REMARKS

Summary of the Examiner's Actions

The examiner rejected Claims 1-23 and 28 under 35 U.S.C. § 103(a) as being obvious under Stewart, et al., U.S. Patent 6,392,547 ("Stewart"). Applicant acknowledges the rejection under 35 U.S.C. § 103(a).

Rejections under 35 U.S.C. § 103(a)

A rejection under 35 U.S.C. § 103(a) must be supported by a *prima facie* case of obviousness. MPEP § 2142. The first element in establishing a *prima facie* case of obviousness is that "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings." *Id.* The second element is that there must be a reasonable expectation of success. *Id.* The third element is that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." *Id.* "There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 47 U.S.P.Q.2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper); see MPEP § 2143.01. "Combining prior art references without evidence of such a suggestion, teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability--the essence of hindsight." *In re Dembiczak*, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999).

The relevant facts for finding obviousness relate to (1) the scope and content of the prior art, (2) the level of ordinary skill in the field of the invention, (3) the differences between the claimed invention and the prior art, and (4) any objective evidence of nonobviousness such as long felt need, commercial success, the failure of others, or copying. *Graham v. John Deere Co.*, 148 U.S.P.Q. 459, 467 (U.S. 1966); see *Continental Can Co. v. Monsanto Co.*, 20 U.S.P.Q.2d 1746, 1750-51 (Fed.

Cir. 1991). The Supreme Court in *Graham* stated that “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.” *Graham*, 148 U.S.P.Q. at 467. The *Graham* court further stated that “[s]uch secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Id.*

At the outset, Applicant notes that Stewart discloses only a general concept and offers virtually no details about the design or implementation of an electromagnetic proximity detection system. Stewart generally discloses a proximity monitoring system that uses a magnetic field generator for generating a rotating magnetic field. Also disclosed is a corresponding portable magnetic field detector that detects the signal strength of the magnetic field, an inherent property of the field, and transmits a signal from a transmitter when a threshold level is crossed. This threshold level represents the maximum allowable separation distance between the transmitter and the receiver.

Considerable effort has been previously devoted to this area as evidenced by the prior art submitted to the examiner by Applicant. Notwithstanding, the examiner has not identified any secondary reference, which in combination with Stewart, shows all of the elements or offers a suggestion or motivation to arrive at invention claimed in the present application. After reviewing the teachings of Stewart, the skilled artisan would not be placed in command of a wireless electromagnetic proximity detection system. In fact, the specification is replete with speculative language leaving the reader unsure about what is enabled by the Stewart patent. Instead, the skilled artisan would be required to design every facet of the wireless electromagnetic proximity detection system. It is not reasonable to suggest that the general disclosure made by Stewart provides the suggestion or the motivation to arrive at the invention claimed by Applicant. While it is not the examiner’s job review the validity of the Stewart patent, Applicant respectfully

requests that the examiner consider the generality of the Stewart patent as a limitation on what is disclosed.

The rejection of Claims 1-23 and 28 under 35 U.S.C. § 103(a) is improper because the examiner has failed to show all of the elements in the prior art and has not provided a suggestion or motivation to arrive at the invention of Claims 1-23 and 28 based on Stewart in combination with alleged knowledge of one skilled in the art.

With respect to Claims 1-3, 15, and 28, Stewart does not disclose the measurement of the total power of the incident magnetic field and does not offer any suggestion or motivation to do so. In the rejection of Claims 1-3, 15, and 28, the examiner argues that measurement to the total power is implied because the Stewart receiver antennas are “oriented in three distinct and different axes, and thus the total power is connected to a common node connected to the detector 56 . . .” *Office Action*, at 2-3. The Stewart receiver antenna is described as “a plurality of wire coils 53-55, typically three in number as shown in the illustrated embodiment [of Figure 4]. The three orthogonally oriented coils 53-55 permit the housing 51 [of the receiver tag] to be held in any orientation with respect to the rotating magnetic field. . . .” *Id.* at col 4, lines 52-57. Stewart describes the coil arrangement as designed to “ensure capturing of the largest available signal strength.” *Id.* at col. 5, lines 17-18. Stewart discloses that “[t]he outputs of the coils 53-55 are preferably combined to create a uniform output regardless of the tag 25 orientation.” *Id.* at col. 5, lines 18-20. This disclosure does not suggest that the output is indicative of the total power but, rather, that the most significant output can be obtained.

Further, Stewart does not disclose any details concerning the operation of the processor as a measurement circuit for the signal strength at the antennas. In the section of the Stewart patent identified by the examiner, Stewart indicates that the “processor 61 may perform a number of different functions as described herein.” Stewart, col. 5, lines 31-33. However, in the next sentence, Stewart

immediate moves to describing the operation of transmitter. No further mention of the processor or its functions is made. Accordingly, the reader is left to assume that some of the actions described therein are handled by the processor. However, there is no discussion of how threshold detection is achieved. Absent additional information, the reader is unaware as to whether the processor includes an internal comparator system or whether the Stewart system includes some additional equipment in between the demodulator and the processor. The mere mentioning of threshold intensity detection does not render the process obvious, especially with regard to determining the total power. Applicant is aware of the various electrical components that are described in the source book libraries; however, it is not obvious to take a patent lacking any detail, such as Stewart, and find suggestion or motivation to arrive at a threshold circuit capable of analyzing the total power incident at an antenna assembly feeding a single channel receiver.

Accordingly, the unique implementation of a working transmitter and receiver found in Claim 1-3, 15, and 28, which incorporates features not described or suggested by the speculative specification of Stewart, is not properly rejected under 35 U.S.C. § 103(a) in view of Stewart and some non-specific, alleged knowledge of those skilled in the art. The examiner has not identified any secondary reference to support the assertion that the claimed limitations are obvious. In the absence of documentary proof, as required under MPEP § 2144.03, of the examiner's assertion that the Claims 1-3, 15, and 28 are known and a showing of motivation to combine the references, Applicant respectfully requests that the rejection of Claims 1-3, 15, and 28 under 35 U.S.C. § 103(a) be withdrawn. Notwithstanding, Applicant presents rebuttal to the rejection of Claims 1, 3, 15, and 28 in the following claim-by-claim analysis.

With respect to Claims 4-6 and 9-14, Applicant notes that certain conventional modulation techniques and electrical components are described. However, the creation of a working magnetic field based proximity monitoring transmitter or receiver is not obvious based on Stewart. Stewart discloses modulation to allow multiple systems to operate in close proximity without

interference. See Stewart, col. 4, lines 49-67. The modulation scheme associated with the structure and implementation of the present invention described in Claims 4-6 and 9-14 provides the ability to transmit and extract information about individual magnetic field components which make up the composite magnetic field. Stewart neither contemplates nor discloses the reconstruction of individual magnetic field components. Accordingly, the unique implementation of a working transmitter and receiver incorporating features not described or suggested by the speculative specification of Stewart is not properly rejected under 35 U.S.C. § 103(a) in view of Stewart and some non-specific, alleged knowledge of those skilled in the art. In the absence of documentary proof, as required under MPEP § 2144.03, of the examiner's assertion that "it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken," and a showing of motivation to combine the references, Applicant respectfully requests that the rejection of Claims 4-6 and 9-14 under 35 U.S.C. § 103(a) be withdrawn. Notwithstanding, Applicant presents rebuttal to the rejection of Claims 4-6 and 9-14 in the following claim-by-claim analysis.

Further, with respect to Claims 4-6 and 12-14, the examiner states that "it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken." Applicant respectfully disagrees that the antenna arrangements are of such instant and unquestionable demonstration as to be "well-known." Examples of proper judicial notice are supplied in Section 2144.03 of the Manual of Patent Examining Procedure. These examples include noting that "it is common practice to postheat a weld after the welding operation is completed" and that "it is old to adjust the intensity of a flame in accordance with the heat requirements." Stewart merely recites the use of antennas to detect a broadcast signal, which by itself might be considered a well-known practice. However, it is not reasonable infer that that any particular antenna configuration including the specific limitations provided in Claims 4-6 and 12-14 would be well-known. Applicant has devoted a considerable portion of the specification to the transmitter antenna assembly and the receiver

antenna assembly commensurate with the effort involved in developing a working wireless electromagnetic proximity detection system. The development of a two-axis receiving antennas capable of retrieving all information sent using a three-axis broadcast antenna is not a trivial task. Accordingly, the unique implementation of a working transmitter and receiver incorporating features not described or suggested by the speculative specification of Stewart is not properly rejected under 35 U.S.C. § 103(a) in view of Stewart and some non-specific, alleged knowledge of those skilled in the art. In the absence of documentary proof, as required under MPEP § 2144.03, of the examiner's assertion that "it would have been obvious to the skilled artisan to employ three transmitting antennas and/or two receiver antennas, and notice of such use is hereby taken," and a showing of motivation to combine the references, Applicant respectfully requests that the rejection of Claims 4-6 and 12-14 under 35 U.S.C. § 103(a) be withdrawn. Notwithstanding, Applicant presents rebuttal to the rejection of Claims 4-6 and 12-14 in the following claim-by-claim analysis.

With respect to Claims 8 and 15-23, the examiner's position may be summarized that it would be obvious to employ the various components claimed therein once Stewart is known. Applicant notes that certain conventional electrical components are described. However, the creation of a working magnetic field based proximity monitoring transmitter or receiver is not obvious based on Stewart. Stewart offers no details about the design or implementation of an electromagnetic proximity detection system. Many of the various features of the magnetic field based proximity monitoring system found in Claims 8 and 15-23 address solutions to problems not encountered by or even contemplated by Stewart. Accordingly, the unique implementation of a working transmitter and receiver incorporating features not described or suggested by the speculative specification of Stewart is not properly rejected under 35 U.S.C. § 103(a) in view of Stewart and some non-specific, alleged knowledge of those skilled in the art. Considerable effort has been previously devoted to this area as evidenced by the prior art submitted to the examiner by Applicant. The examiner has not identified any secondary reference to support the assertion that the claimed limitations are

obvious. In the absence of documentary proof, as required under MPEP § 2144.03, of the examiner's assertion that the "oscillator and PLL and converters, etc., are all obvious transmitter components in the Stewart et al system, and would therefore be obvious to employ therein," and a showing of motivation to combine the references, Applicant respectfully requests that the rejection of Claims 8 and 15-23 under 35 U.S.C. § 103(a) be withdrawn. Notwithstanding, Applicant presents rebuttal to the rejection of Claims 8 and 15-23 in the following claim-by-claim analysis.

With respect to Claims 7 and 28, Applicant notes that Claims 7 and 28 are of differing scope and are not properly analyzed together based solely on the relationship to the power line frequency. Claims 28 contains additional non-obvious features beyond that identified by the examiner. The relationship of the frequencies used in the claimed proximity monitoring system to the power line frequencies or the intended goal of noise rejection is not addressed by Stewart. Accordingly, the unique implementation of a working transmitter and receiver incorporating noise rejection features not described or suggested by the speculative specification of Stewart is not properly rejected under 35 U.S.C. § 103(a) in view of Stewart and some non-specific, alleged knowledge of those skilled in the art. In the absence of documentary proof, as required under MPEP § 2144.03, of the examiner's assertion that the "line frequency multiple defining the carrier frequency is an obvious method used in transmitters," and a showing of motivation to combine the references, Applicant respectfully requests that the rejection of Claims 7 and 28 under 35 U.S.C. § 103(a) be withdrawn. Notwithstanding, Applicant presents rebuttal to the rejection of Claims 4-6 and 9-14 in the following claim-by-claim analysis.

Claim by Claim Analysis

Claim 1 recites a "single channel receiver" and a "measurement circuit for determining a total power of said magnetic field incident at said antenna array. The examiner has not established a *prima facie* case of obviousness by failing to

provide 1) references showing the use of a single channel receiver or a total power measurement circuit in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the use of a single channel receiver or a total power measurement circuit with Stewart to achieve the invention of Claim 3 as required by the third element and the first element, respectively, of the obviousness test.

Claim 3 includes a transmitting antenna array having antennas corresponding to a three-dimensional coordinate axis for transmitting individual magnetic field components. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of three-dimensional antenna array in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the use of a three-dimensional antenna array with Stewart to achieve the invention of Claim 3 as required by the third element and the first element, respectively, of the obviousness test.

Claim 4 states that the magnetic field is a composite of multiple components. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of composite magnetic field containing multiple components in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the use of a multi-component composite magnetic field with Stewart to achieve the invention of Claim 4 as required by the third element and the first element, respectively, of the obviousness test.

Claim 5 requires the transmission of individual magnetic field components using a single carrier frequency. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the transmission of individual magnetic field components using a single carrier frequency in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the transmission of the individual magnetic field

components using a single carrier frequency with Stewart to achieve the invention of Claim 5 as required by the third element and the first element, respectively, of the obviousness test.

Claim 6 states that the single carrier frequency is uniquely modulated for each of the individual magnetic field components. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing unique modulation of the single carrier frequency for each component in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine unique modulation of the single carrier frequency for each component with Stewart to achieve the invention of Claim 6 as required by the third element and the first element, respectively, of the obviousness test.

Claim 7 requires that the single carrier frequency be a “programmable integral multiple of a power line supply frequency.” The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of an integral multiple of the power line supply frequency for the carrier frequency in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the use of an integral multiple of the power line supply frequency for the carrier frequency with Stewart to achieve the invention of Claim 7 as required by the third element and the first element, respectively, of the obviousness test.

Claim 8 includes single carrier frequency that is “derived from a crystal oscillator using a phase locked loop.” The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of a crystal oscillator in conjunction with a phase locked loop to obtain the carrier frequency in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine a carrier frequency generator using a crystal oscillator and a phase locked loop with Stewart to achieve the invention of Claim 8 as required by the third element and the first element, respectively, of the obviousness test.

Claim 9 includes modulating a single carrier frequency with a binary shift keying waveform. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of binary shift keying in a magnetic field based proximity monitoring system and 2) a showing any motivation or suggestion to combine the use of binary shift keying with Stewart to achieve the invention of Claim 9 as required by the third element and the first element, respectively, of the obviousness test.

Claim 10 states that the “binary shift keying waveform is modulated using a waveform produced by integral ratio frequency division of a transmitter system clock.” The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of integral ratio frequency division of a clock in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the use of integral ratio frequency division of a clock with Stewart to achieve the invention of Claim 10 as required by the third element and the first element, respectively, of the obviousness test.

Claim 11 requires that the “binary phase shift keying waveform is selected to produce a high degree of rejection of interference at a power line frequency and any significant harmonics of the power line frequency and to allow accurate decomposition of said composite magnetic field into said first magnetic field component, said second magnetic field component, and said third magnetic field component.” Stewart makes no mention of interference rejection. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of interference rejection in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the use of interference rejection to allow accurate decomposition of a composite magnetic field with Stewart to achieve the invention of Claim 11 as required by the third element and the first element, respectively, of the obviousness test.

Claim 12 includes the three broadcast antenna components to be constructed of coils having substantially similar dimensions. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of a broadcast antenna constructed of coils having substantially similar dimensions in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a broadcast antenna constructed of coils having substantially similar dimensions with Stewart to achieve the invention of Claim 12 as required by the third element and the first element, respectively, of the obviousness test.

Claim 13 requires that one of the three broadcast antenna components constructed of coils having substantially similar dimensions to be fashioned using two coils. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of two coils having substantially similar dimensions to form a component of the broadcast antenna in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the use of two coils having substantially similar dimensions to form a component of the broadcast antenna with Stewart to achieve the invention of Claim 13 as required by the third element and the first element, respectively, of the obviousness test.

Claim 14 includes a two-axis, single output magnetic field sensing antenna. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of a two-axis, single output magnetic field sensing antenna in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a two-axis, single output magnetic field sensing antenna with Stewart to achieve the invention of Claim 14 as required by the third element and the first element, respectively, of the obviousness test.

Claim 15 requires the use of a non-multiplexed single channel receiver. The examiner has not established a *prima facie* case of obviousness by failing to provide

1) references showing the use of a non-multiplexed single channel receiver in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a non-multiplexed single channel receiver with Stewart to achieve the invention of Claim 15 as required by the third element and the first element, respectively, of the obviousness test.

Claim 16 includes a single integrated circuit including a receiver, an input amplifier, an I and Q baseband converter, a phase locked loop, a crystal oscillator, a baseband pass filter, and an I and Q baseband amplifier. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing a single integrated circuit incorporating all of the above-listed components in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a single integrated circuit incorporating all of the above-listed components with Stewart to achieve the invention of Claim 16 as required by the third element and the first element, respectively, of the obviousness test.

Claim 17 states that the receiver also includes a baseband sigma delta modulator. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing a baseband sigma delta modulator in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a baseband sigma delta modulator with Stewart to achieve the invention of Claim 17 as required by the third element and the first element, respectively, of the obviousness test.

Claim 18 includes a sigma delta converter digital filter in the receiver. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing a sigma delta converter digital filter in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a sigma delta converter digital filter with Stewart to achieve the invention of Claim 18 as required by the third element and the first element, respectively, of the obviousness test.

Claim 19 requires that the I and Q baseband converter is a switching mixer. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of a switching mixer for an I and Q baseband converter in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the use of a switching mixer for an I and Q baseband converter with Stewart to achieve the invention of Claim 19 as required by the third element and the first element, respectively, of the obviousness test.

Claim 20 includes an analog-to-digital converter (ADC) in communication with the I and Q baseband converter and a digital signal processor (DSP) to produce a “digital I and Q baseband signal.” The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use of an ADC with an I and Q baseband converter and a DSP in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine an ADC, an I and Q baseband converter, and a DSP with Stewart to achieve the invention of Claim 20 as required by the third element and the first element, respectively, of the obviousness test.

Claim 21 states that the DSP extracts each of the magnetic field components from the digital I and Q baseband signal. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the extraction of individual magnetic field components from an I and Q baseband signal in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the extraction of individual magnetic field components from an I and Q baseband signal with Stewart to achieve the invention of Claim 21 as required by the third element and the first element, respectively, of the obviousness test.

Claim 22 requires that the receiver module include a “stimulus delivery system for applying a deterrent stimulus to the pet when the pet approaches said boundary.” The examiner has not established a *prima facie* case of obviousness by

failing to provide 1) references showing the use of a stimulus delivery system in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine a stimulus delivery system with Stewart to achieve the invention of Claim 22 as required by the third element and the first element, respectively, of the obviousness test.

Claim 23 includes detection logic to “detect an unusually rapid decrease in said total power of said magnetic field incident at said antenna array thereby indicating a loss of power to said transmitter.” The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing the use detection logic to detect transmitter power loss in a magnetic field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine detection logic capable of detecting transmitter power loss with Stewart to achieve the invention of Claim 23 as required by the third element and the first element, respectively, of the obviousness test.

Claim 28 recites a “digital signal processor for extracting components of said magnetic field and rejecting interference induced by a local power supply line frequency.” Stewart makes no mention of a digital signal processor or interference rejection. The examiner has not established a *prima facie* case of obviousness by failing to provide 1) references showing both the inclusion of a digital signal processor and the use of interference rejection in a magnetic-field based proximity monitoring system and 2) a showing of any motivation or suggestion to combine the use of interference rejection and a digital signal processor to arrive at the invention of Claim 28 as required by the third element and the first element, respectively, of the obviousness test.

For the reasons described in the claim-by-claim analysis, Applicant respectfully requests that the examiner withdraw the rejection of Claims 1, 3-23, and 28 under 35 U.S.C. § 103(a). Further, Claims 2-23 depend from an independent claim that Applicant believes to be allowable over the cited prior art.

Accordingly, Applicant respectfully requests that the rejection of Claims 2-23 under 35 U.S.C. § 103(a) be withdrawn.

Amendments to the Claims

Applicant has amended Claim 20 to correct one antecedent basis problem and one inconsistency resulting from a typographical mistake. In the claims, the remote unit is properly referred to as the “receiver module” and not the “stimulus module.” Additionally, to be consistent with the specification, the output being acted upon by the ADC is the baseband amplifier and not the baseband converter. These amendments are intended to be clerical in nature as they do not substantively affect the scope of the claim.

Applicant has amended Claim 22 to depend from Claim 2. This amendment deletes the unnecessary limitations imposed by the prior dependence from Claim 21.

Applicant has amended Claim 28 to delete the unnecessary limitation that the transmitter operates off of a direct connection to a power line. The novel feature in the receiver module of power line interference rejection has been broadened to cover noise induced in the system from nearby power lines as well as power lines that are directly connected to the system.

Amendments to the Specification

Applicant has amended the specification to correct typographical and/or grammatical errors and to clarify certain portions of the specification. With respect to Paragraph 0018, Applicant has deleted duplicative words. With respect to Paragraph 0019, Applicant has corrected a verb tense error. With respect to Paragraph 0052, Applicant has corrected a typographic omission of several reference numerals. With respect to Paragraph 0075, Applicant has clarified the language regarding the setting of N_{DIV} to be consistent with Figure 10d. Applicant respectfully submits none of the amendments made herein introduce new matter

into the application. Accordingly, Applicant respectfully requests entry of the amendments to the specification.

Amendments to the Drawings

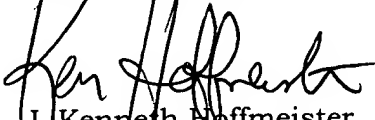
Applicant has amended the drawings to correct certain typographical errors. With respect to Figure 10c, Applicant has corrected a typographical error with respect to the inputs to block 370. The input variables have been changed from "X" to "Y" to be consistent with the variables used in block 370. With respect to Figure 10d, Applicant has corrected a transposition in the values for N_{DIV} in the original figure. Applicant respectfully submits none of the amendments made herein introduce new matter into the application. Accordingly, Applicant respectfully requests entry of the amendments to the drawings.

Summary

In view of the amendment of Claim 20, the amendments to the specification and the drawings, and the arguments presented herein, it is believed that the above-identified patent application is in a condition for the issuance of a Notice of Allowance. Such action by the examiner is respectfully requested. If, however, the examiner is of the opinion that any of the drawings or other portions of the application are still not allowable, it will be appreciated if the examiner will telephone the undersigned to expedite the prosecution of the application.

Please charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 16-1910.

Respectfully submitted,



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